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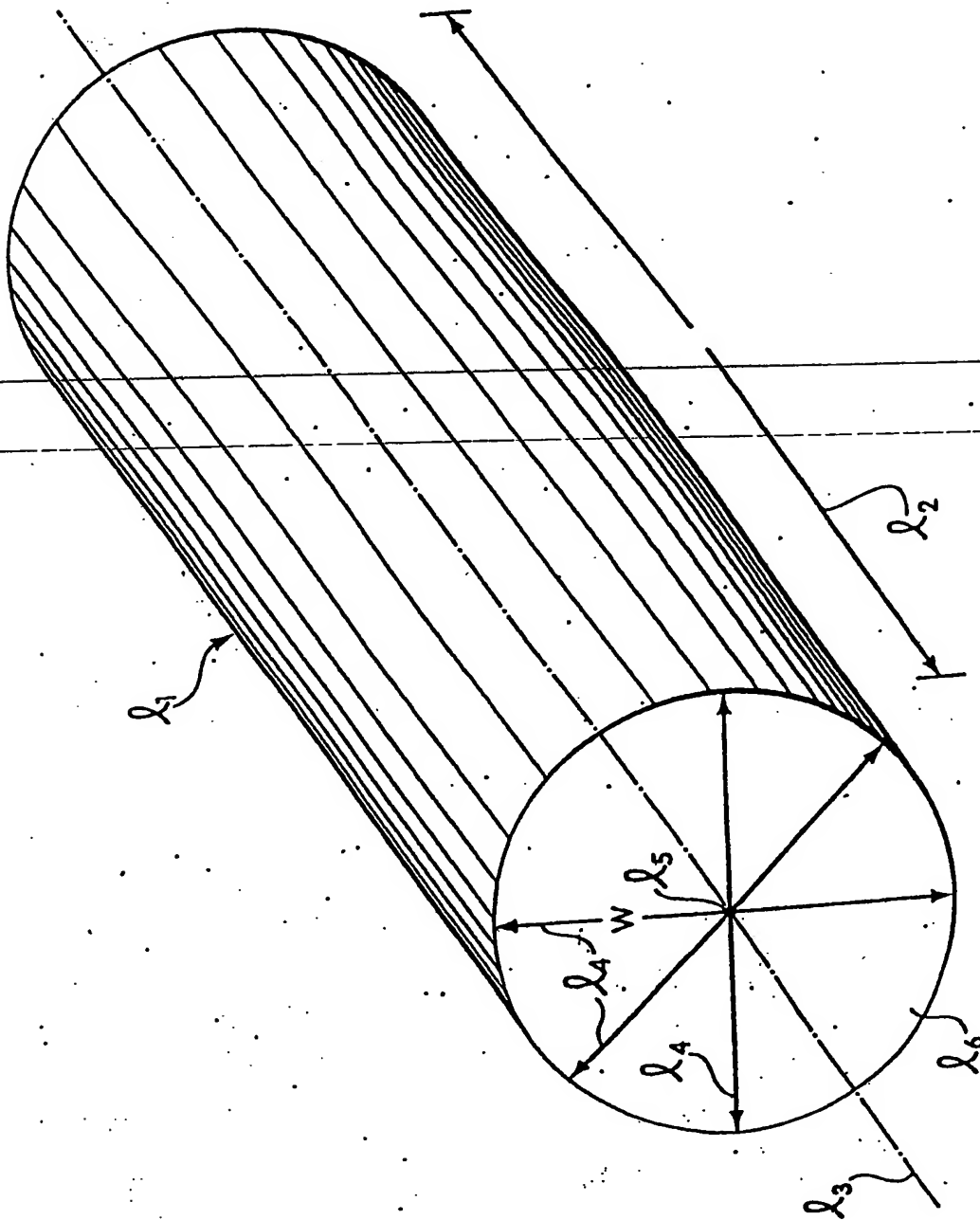


Fig. 1

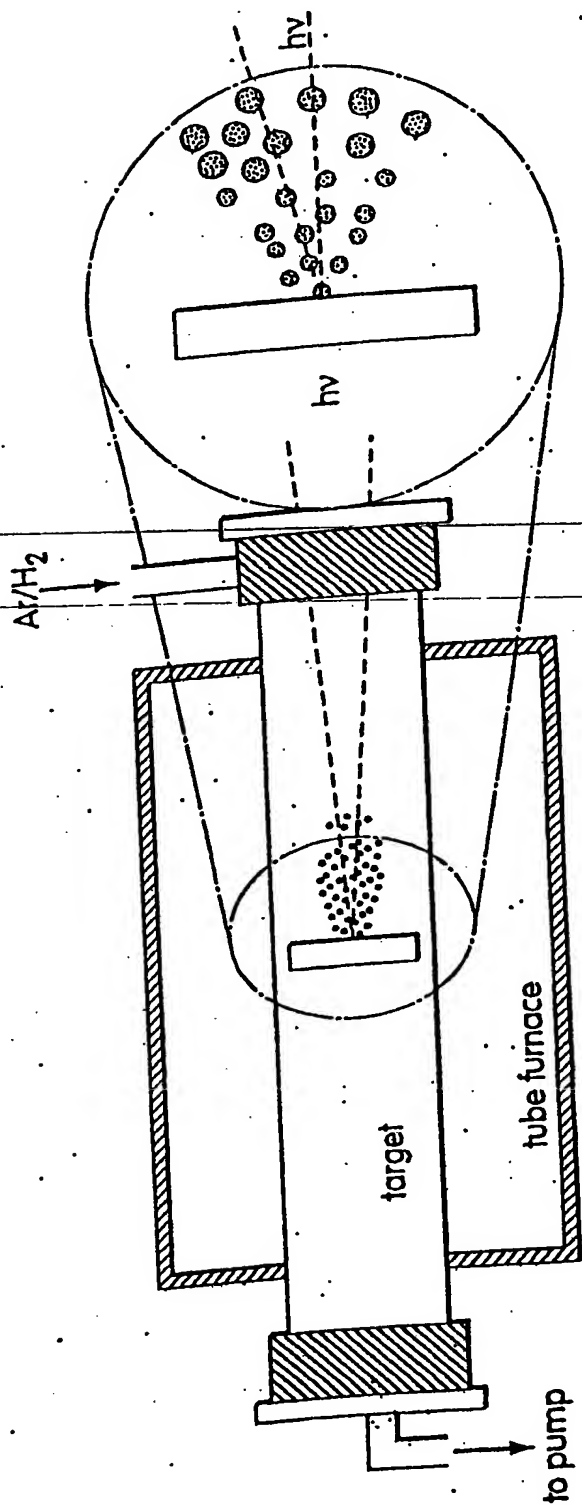


Fig. 2

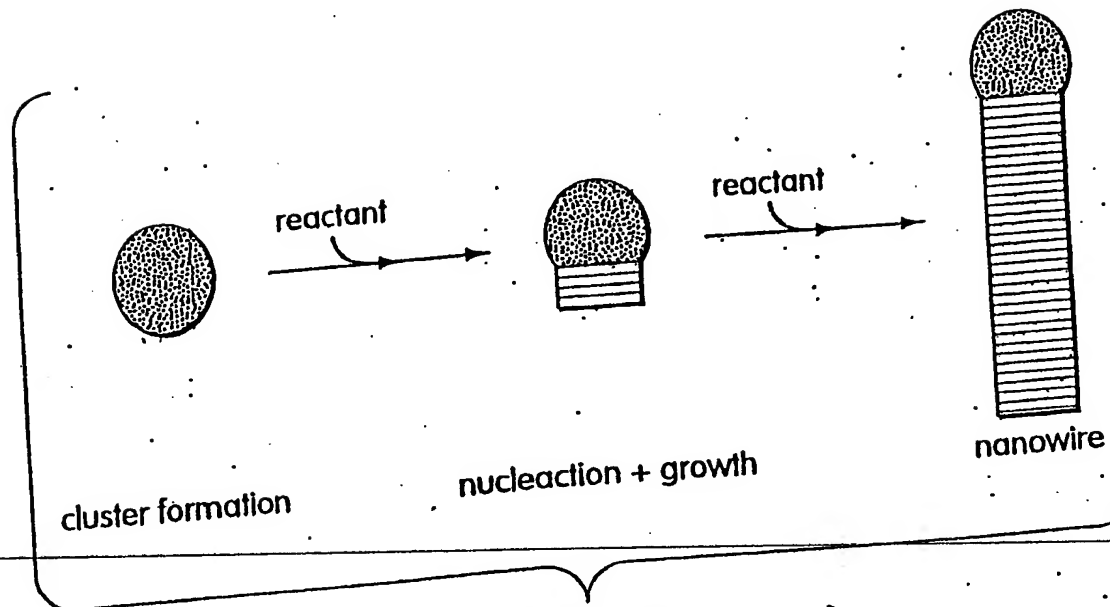


Fig. 3

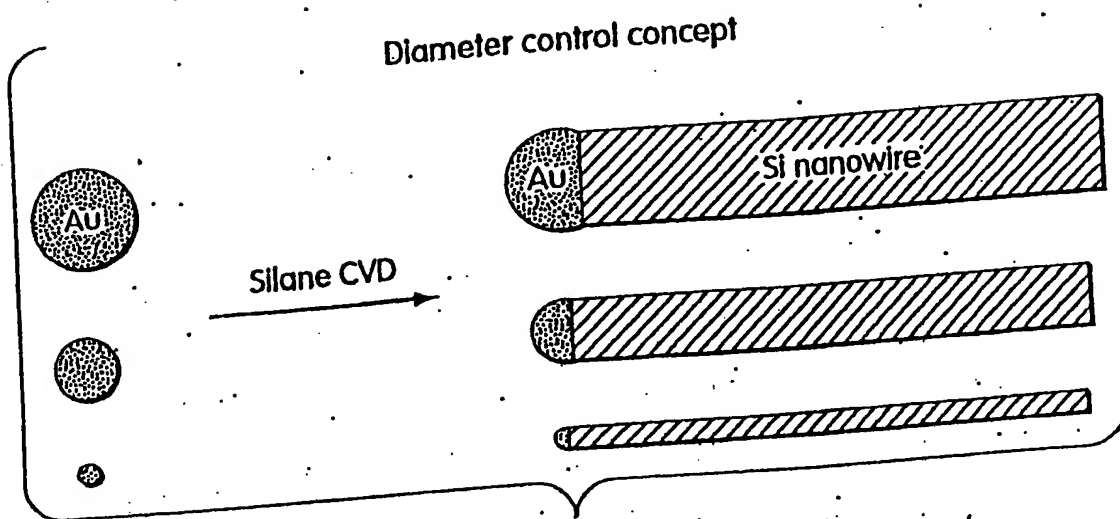


Fig. 4

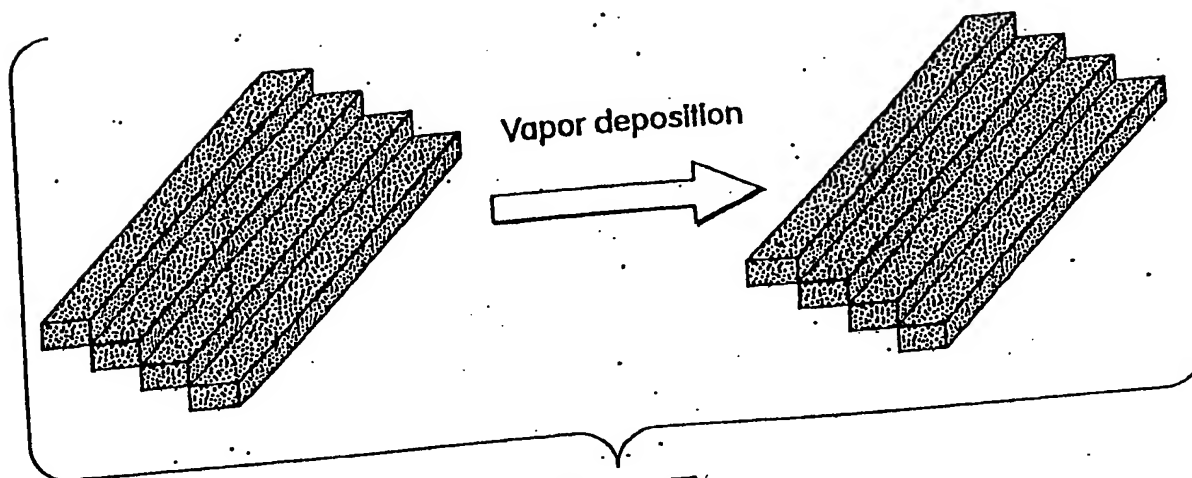


Fig. 5

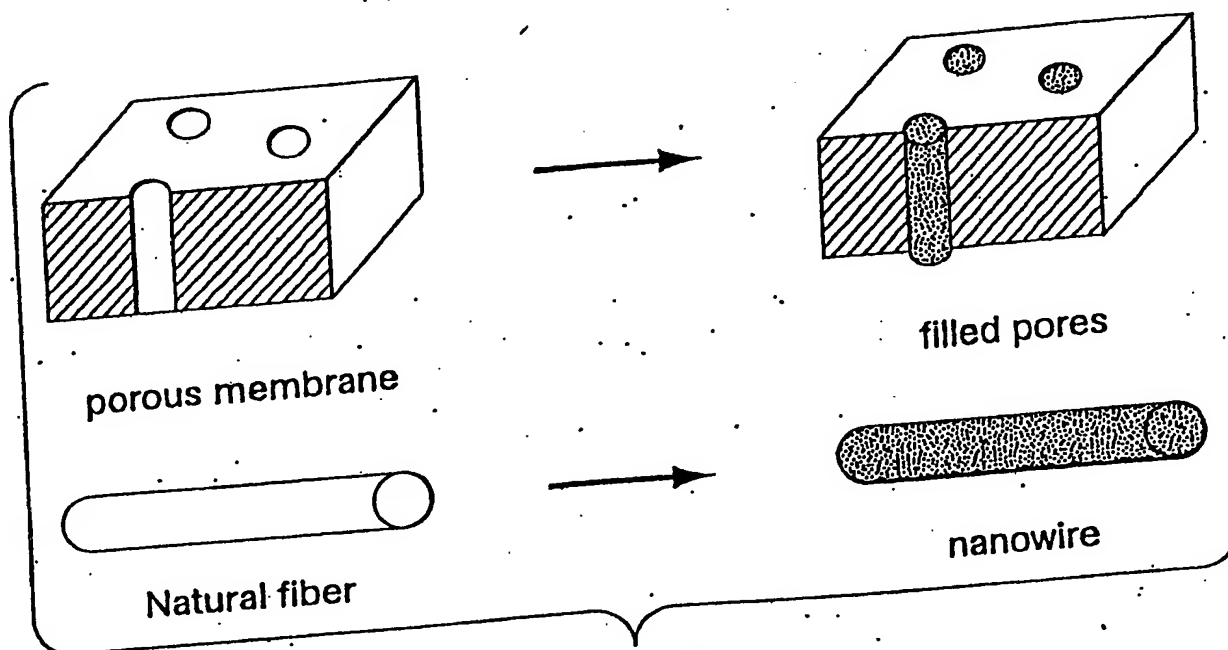


Fig. 6

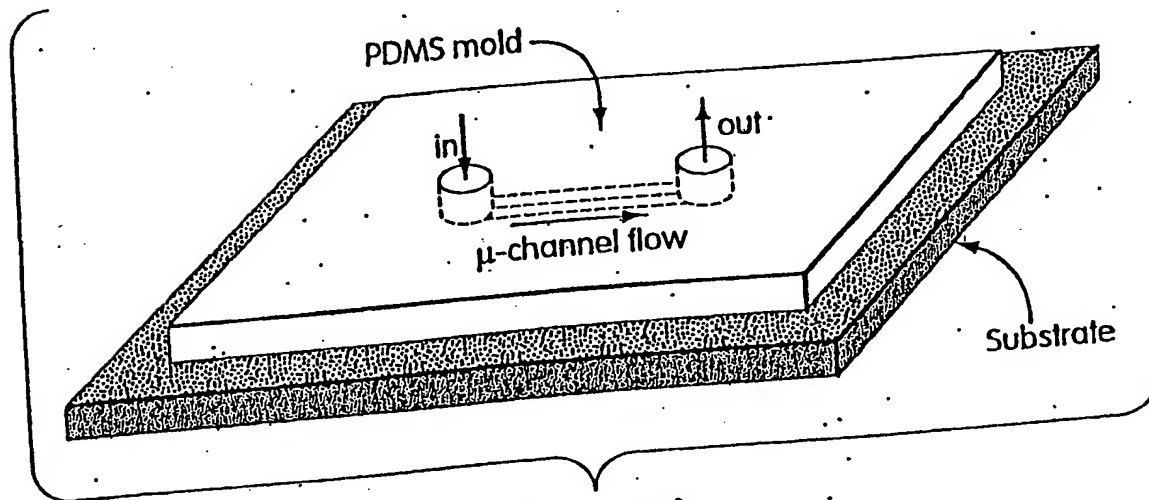


Fig. 7A

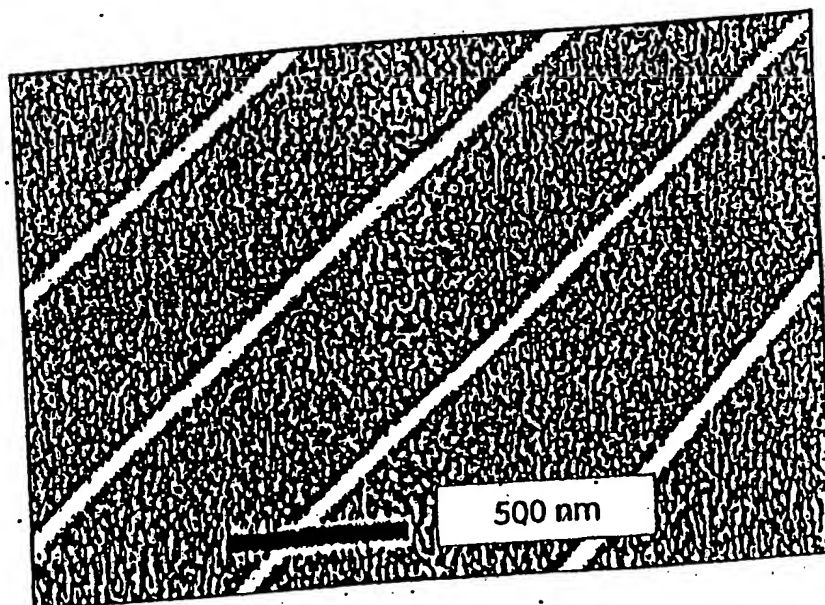


Fig. 7B

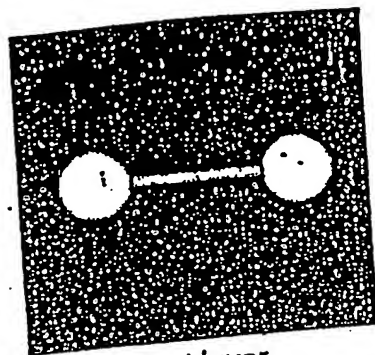
H0498.70203US01

Nanoscale Coherent Optical Components

Inventors: Lieber et al.

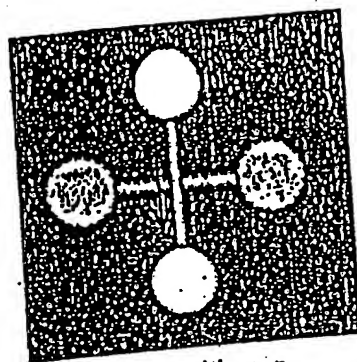
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First layer

Fig. 7C



Second layer

Fig. 7D

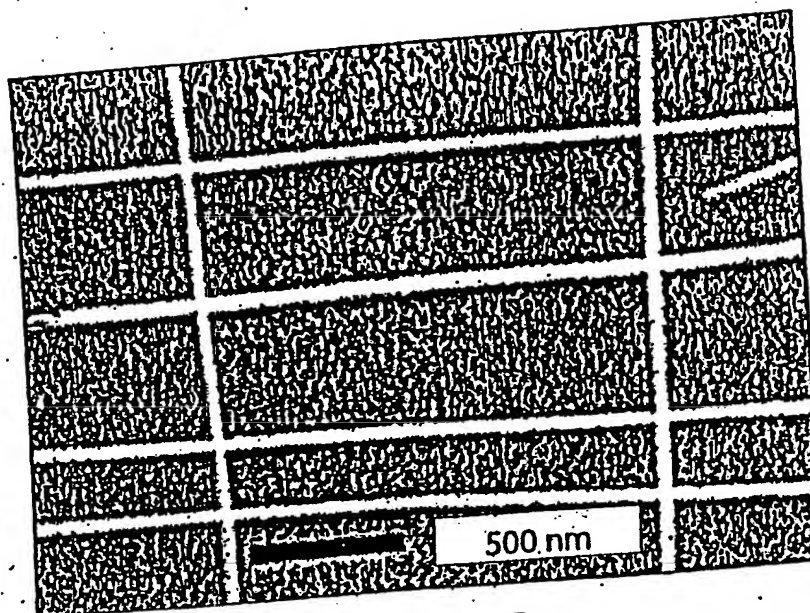


Fig. 7E

## I. DIRECT GROWTH

(a) DEFINE NANOCLUSTER CATALYST



(b) INITIAL LCG SEMICONDUCTOR GROWTH



(c) SECOND LCG SEMICONDUCTOR GROWTH

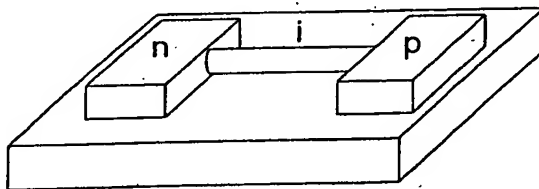


(d) REPEAT (b) OR (c) AS DESIRED



## II. POST-SYNTHESIS FUNCTIONALIZATION

(a) FABRICATE NANOWIRE DEVICE



(b) INTRODUCE DOPANTS BY ANNEALING

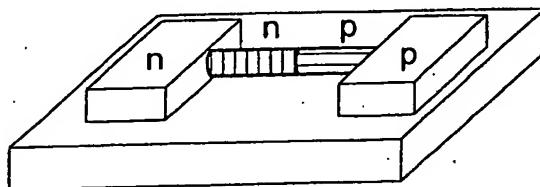


Fig. 8



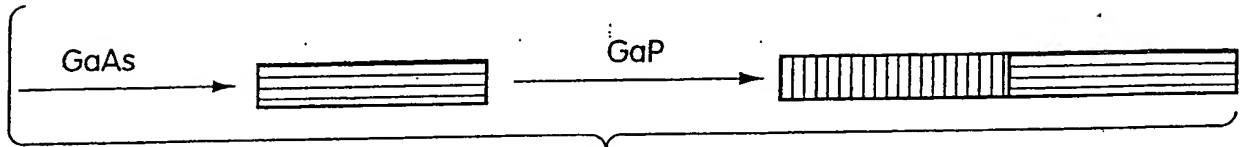


Fig. 9A

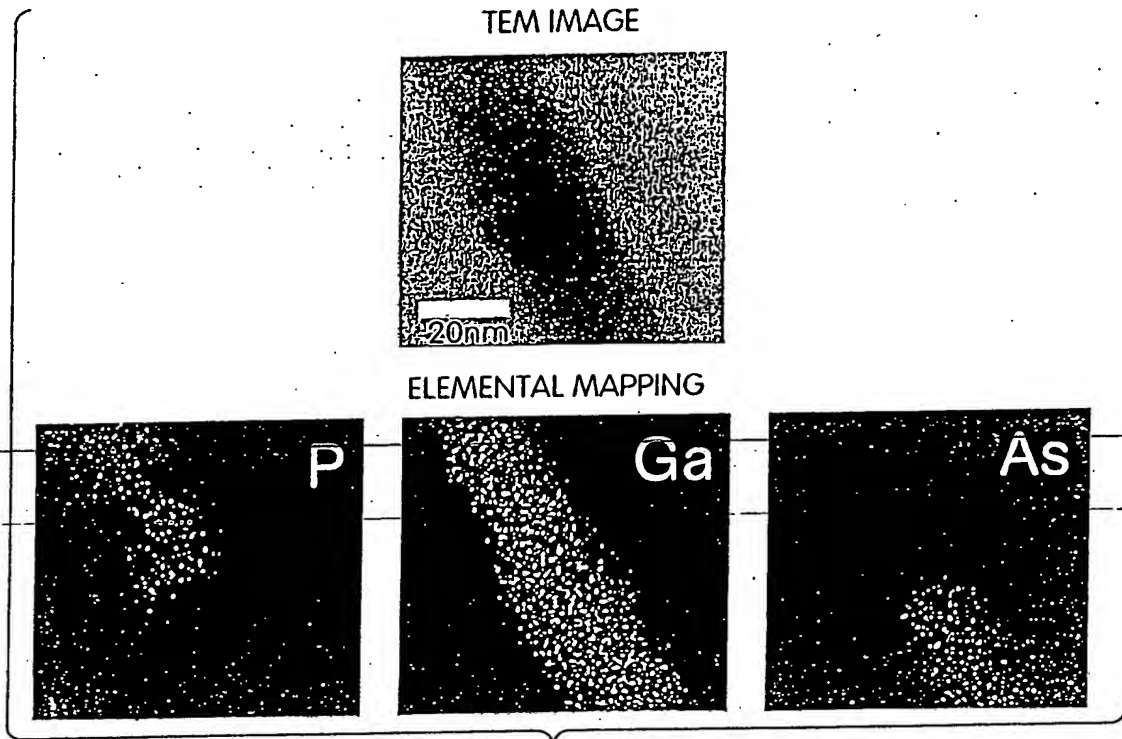


Fig. 9B

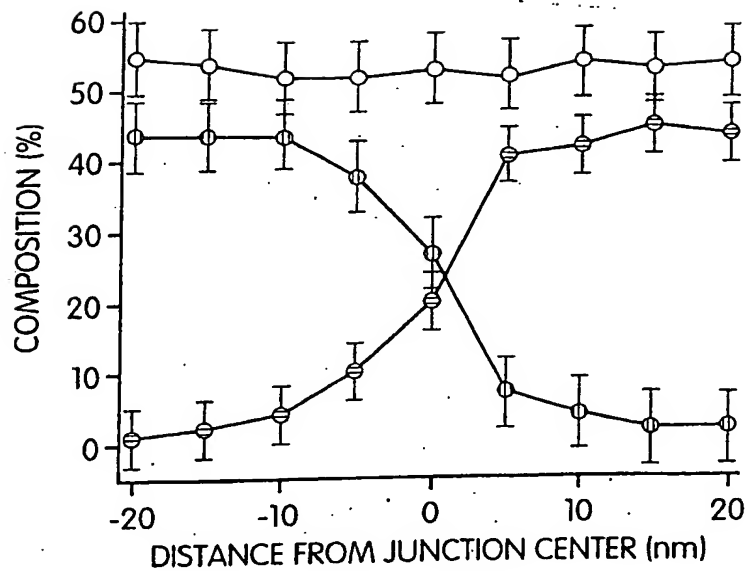


Fig. 9C

H0498.70203US01

Nanoscale Coherent Optical Components

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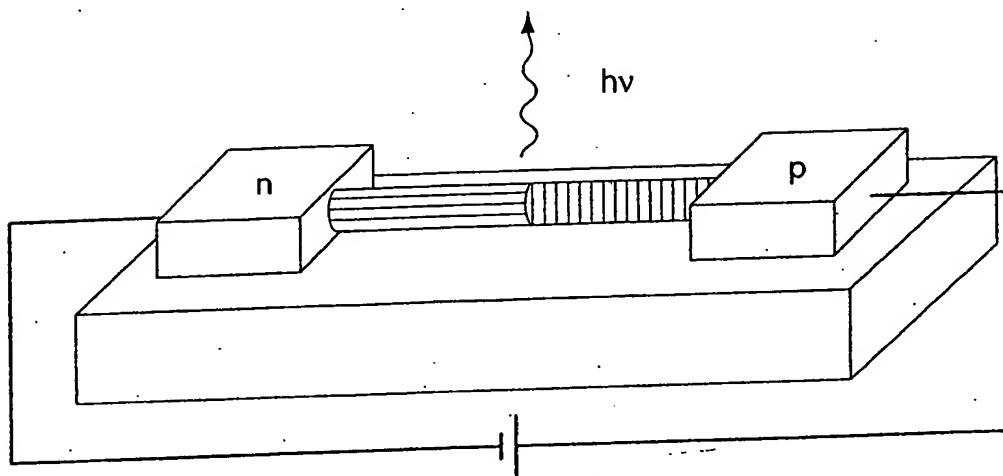


Fig. 10A

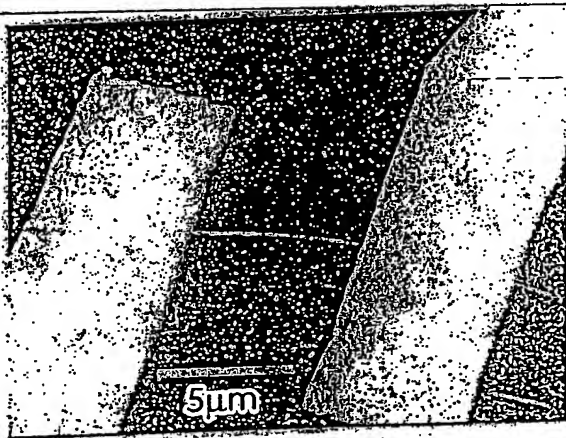


Fig. 10B

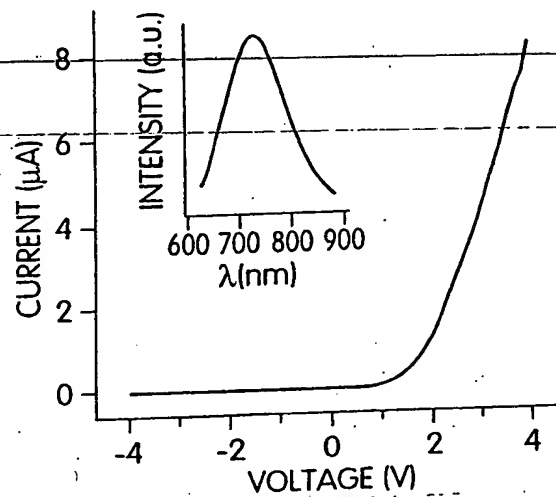


Fig. 10C

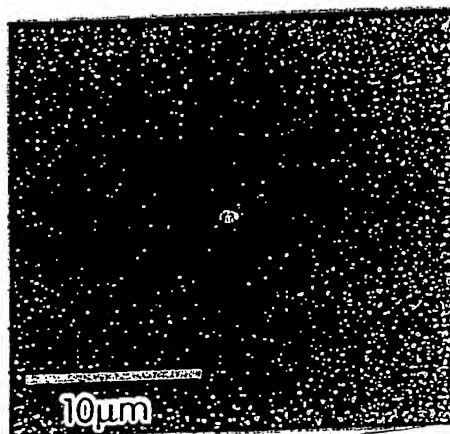


Fig. 10D

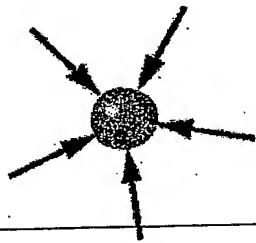


FIG.  
11A



FIG.  
11B



FIG.  
11C



FIG.  
11D



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FIG.  
12A



FIG.  
12B

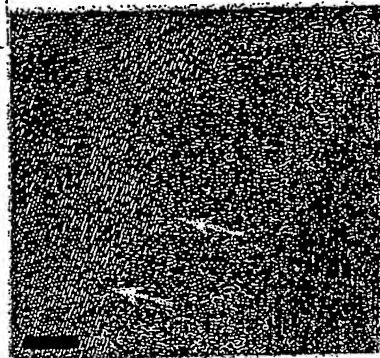


FIG.  
12C



FIG.  
12D

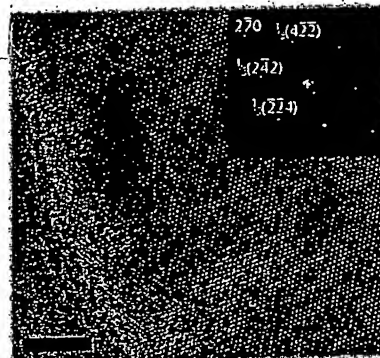


FIG.  
12E



FIG.  
12F

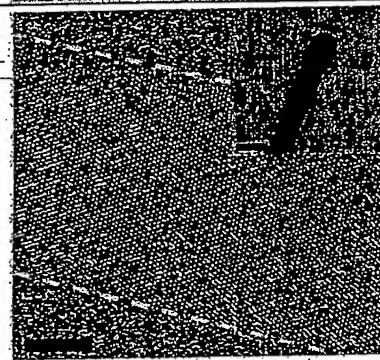
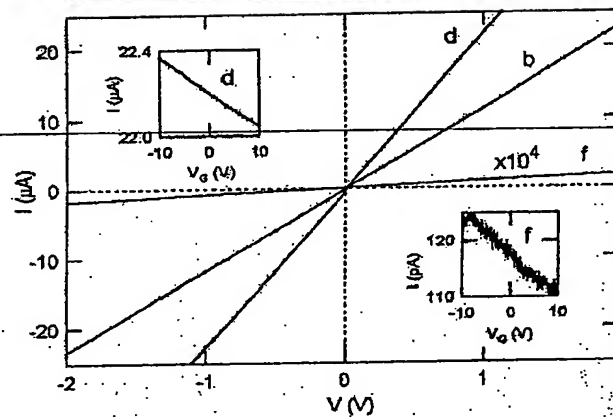


FIG.  
12G



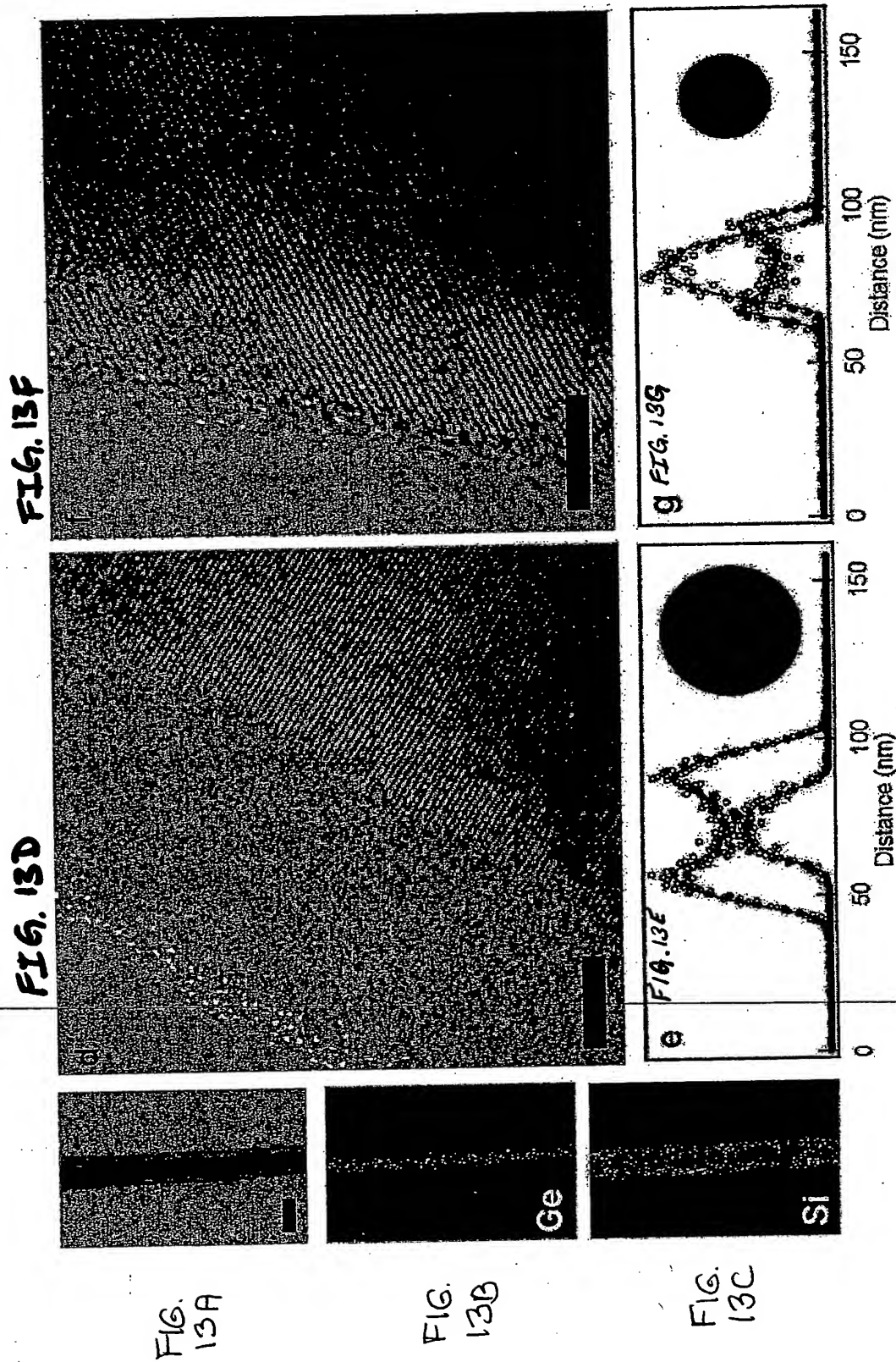


FIG.  
14A

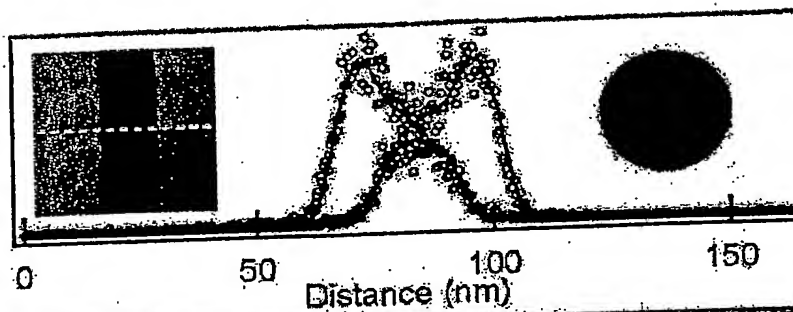


FIG.  
14B

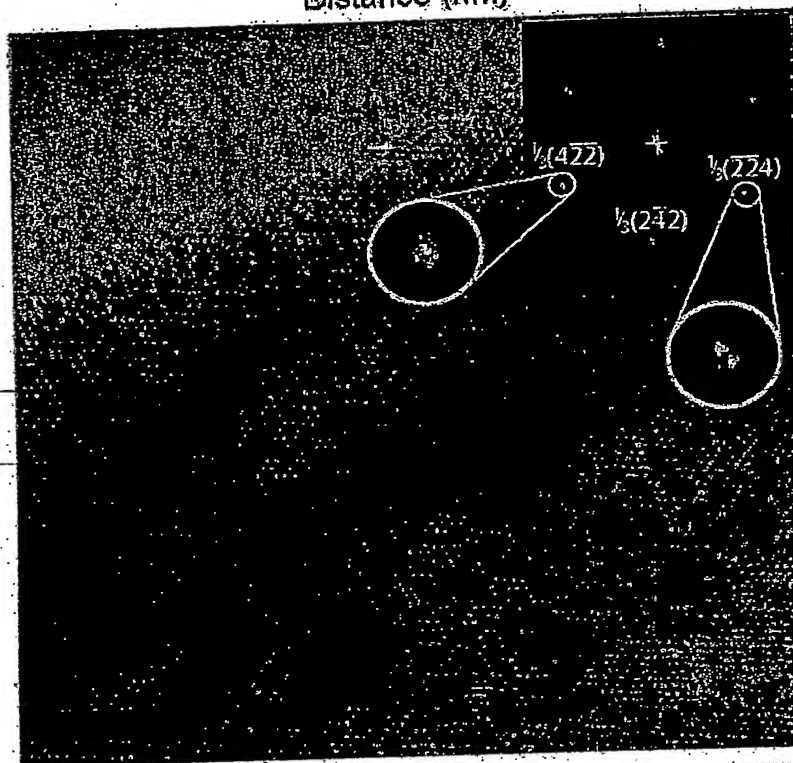


FIG.  
14C

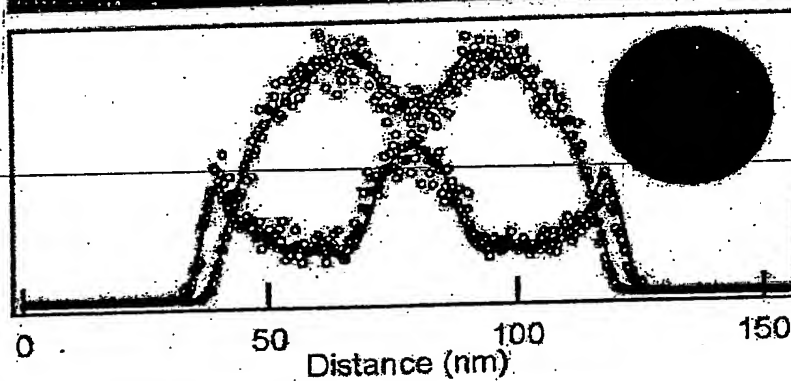


FIG.  
15A

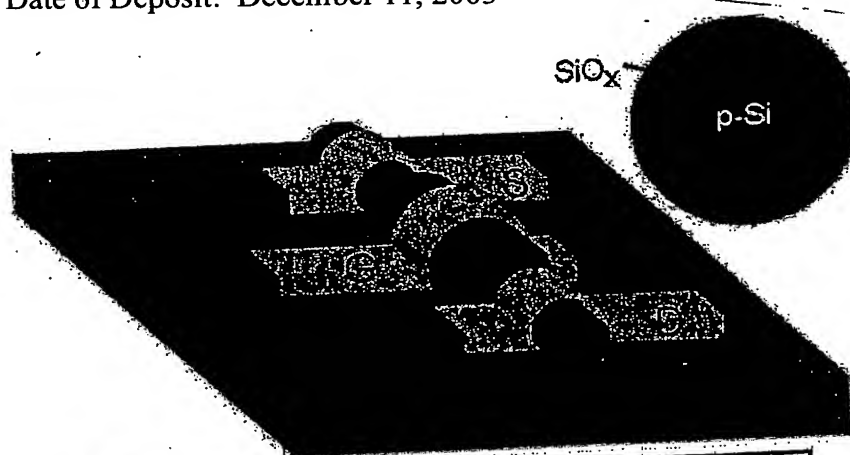


FIG.  
15B

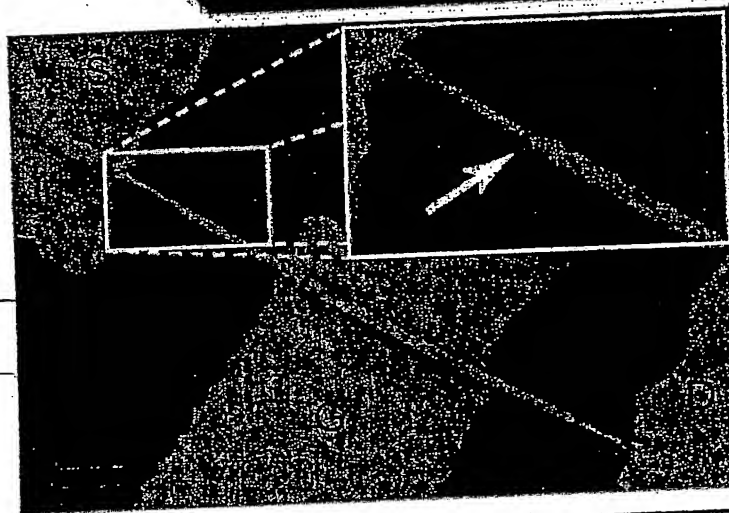
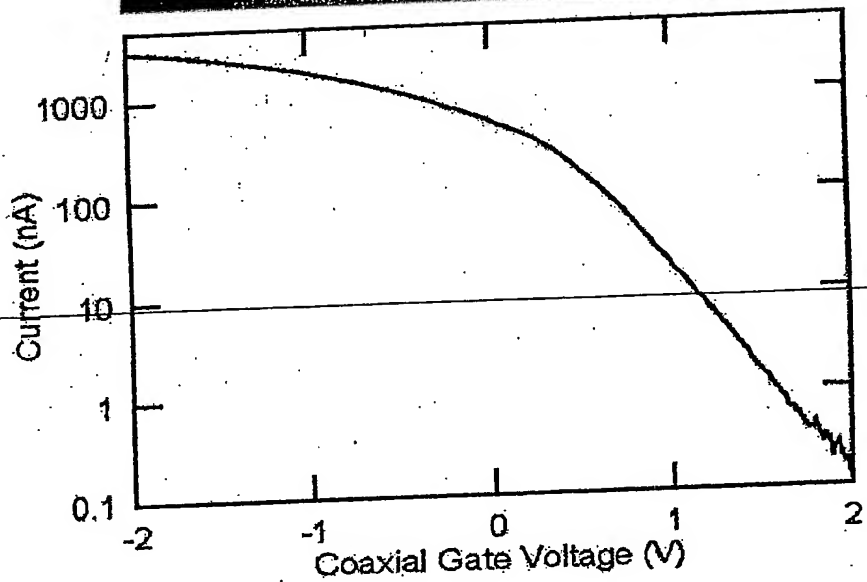


FIG.  
15C



H0498.70203US01

Nanoscale Coherent Optical Components

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FIG. 16A

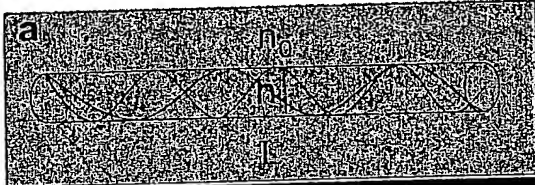


FIG. 16B

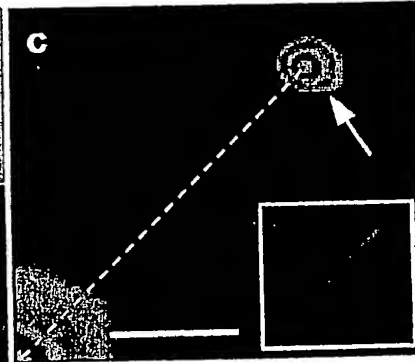
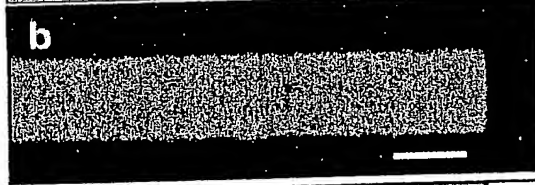


FIG. 16C

FIG. 16D

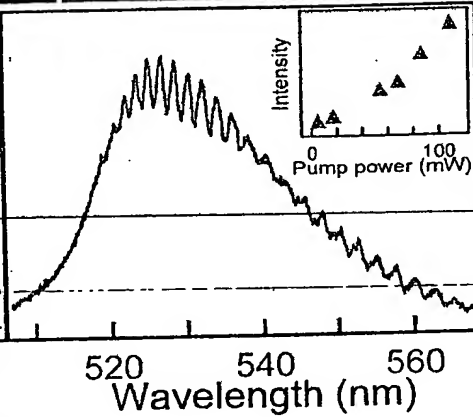
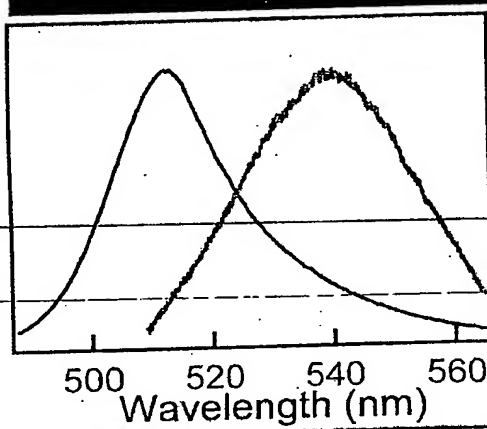


FIG. 16E

FIG. 16F

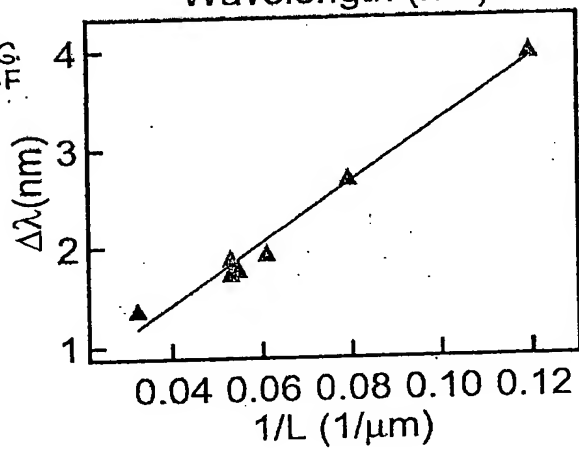




FIG.  
17A

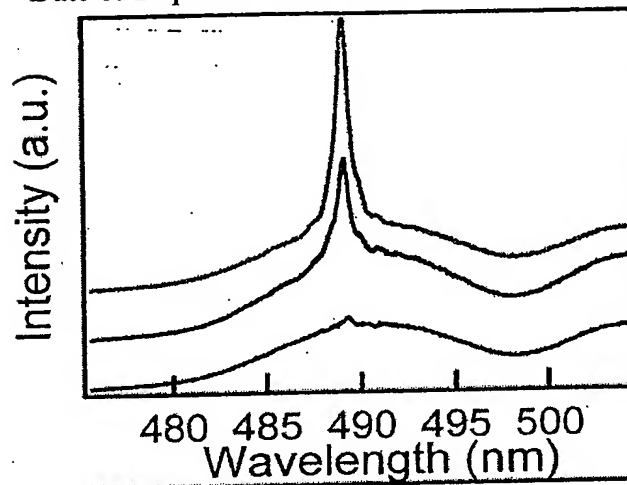


FIG.  
17B

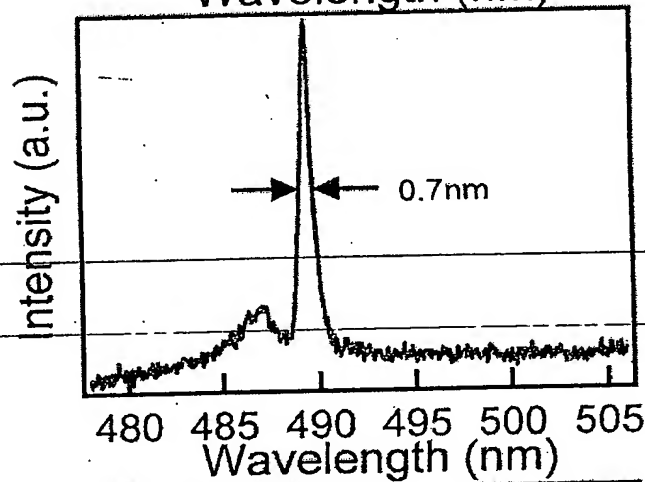


FIG.  
17C

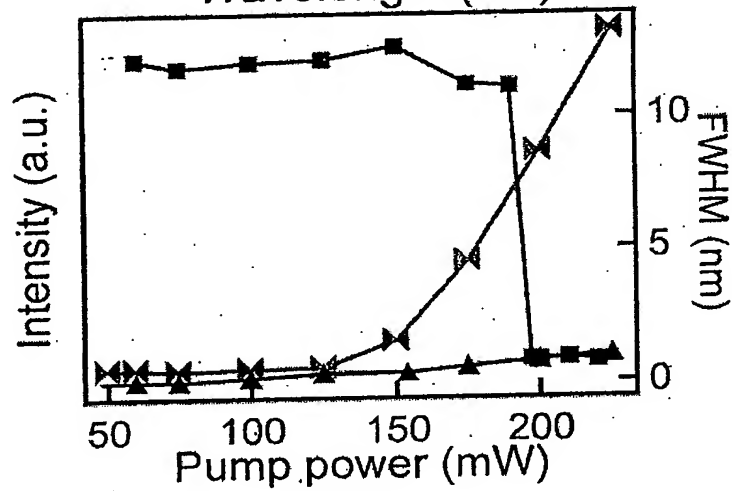


FIG.  
18A



FIG.  
18C

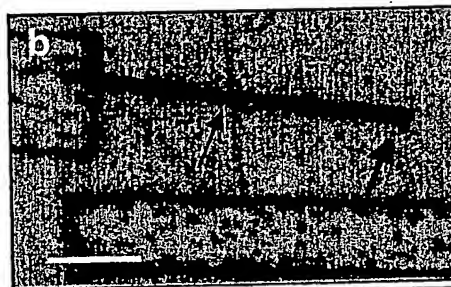
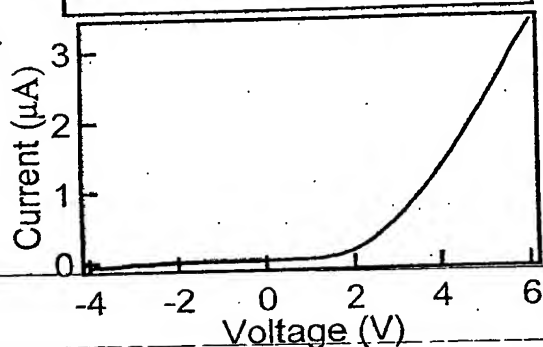


FIG.  
18B



FIG.  
18D

FIG.  
18E

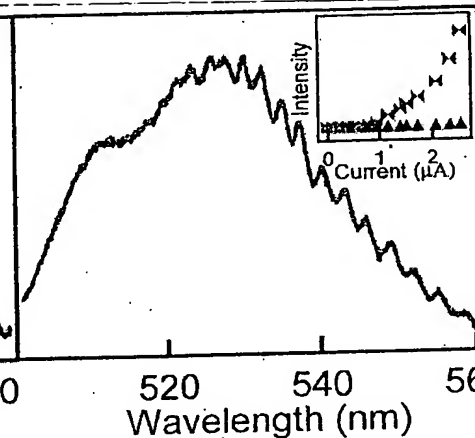
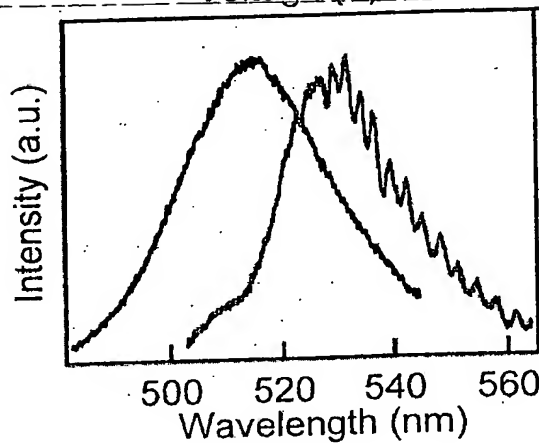


FIG.  
18F

Fig. 18C

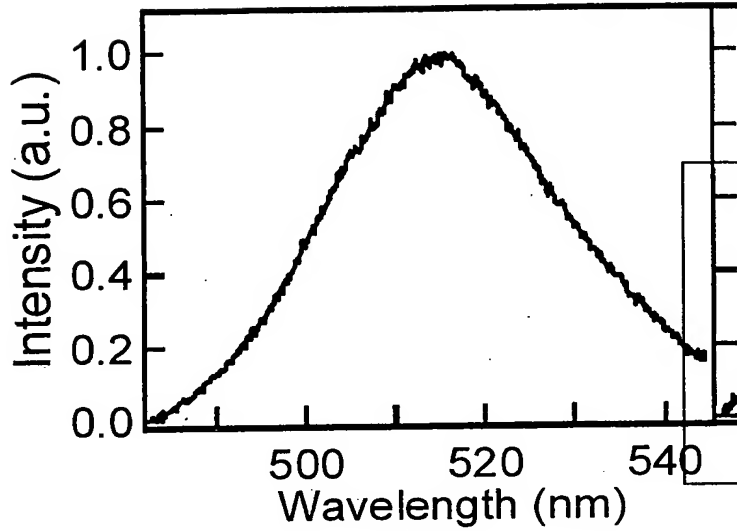


Fig. 18H

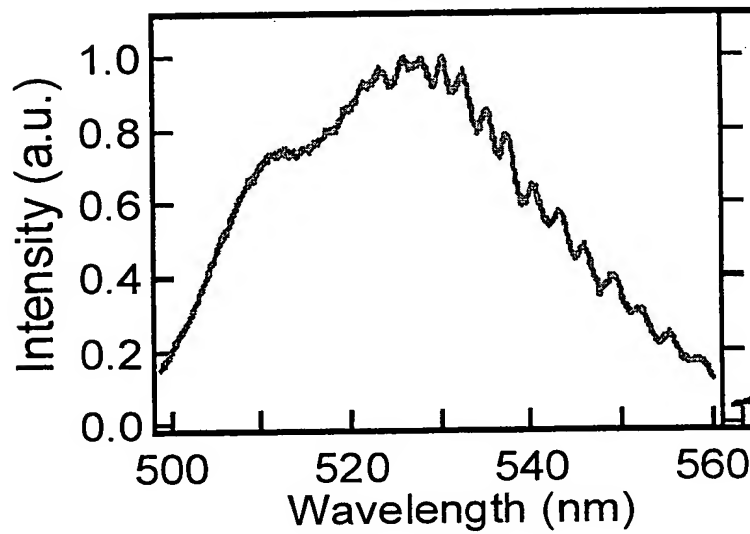
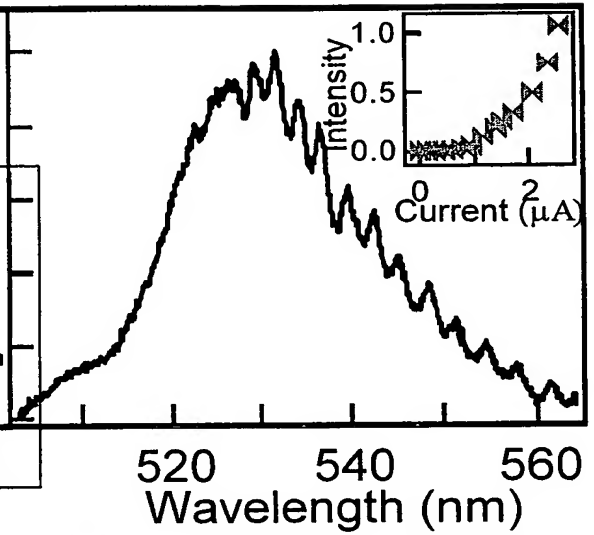


Fig. 18J

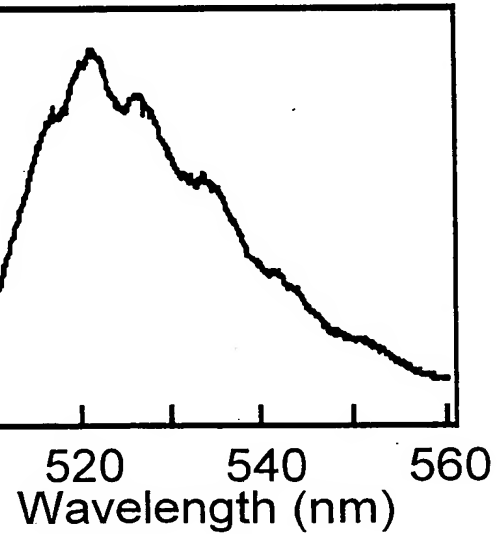


Fig. 18J

H0498.70203US01

Nanoscale Coherent Optical Components

Inventors: Lieber et al.

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FIG.  
19A

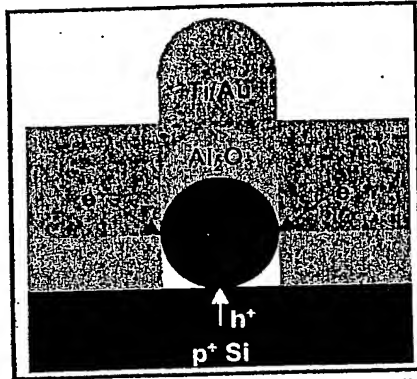


FIG.  
19B

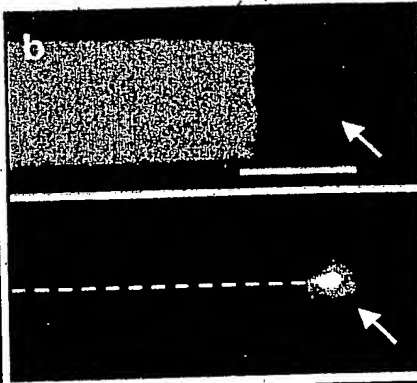


FIG.  
19C

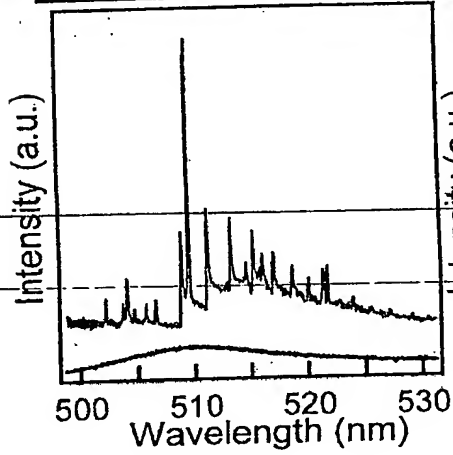
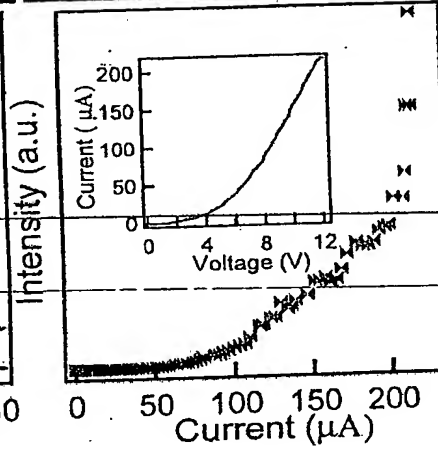


FIG.  
19D



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Nanoscale Coherent Optical Components  
Inventors: Lieber et al.  
Express Mail Label No. EV292456995US  
Date of Deposit: December 11, 2003

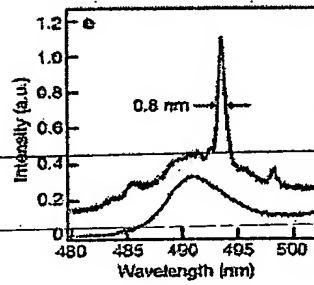


FIG. 19E

FIG. 20A

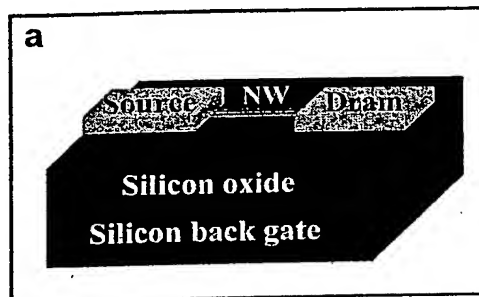


FIG.  
20B

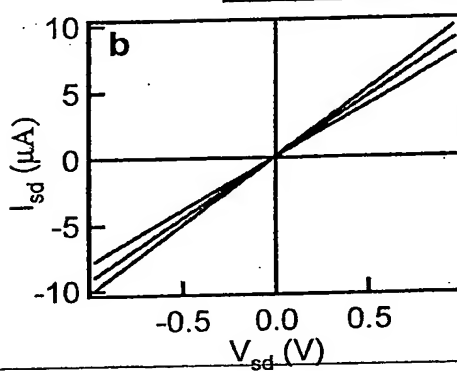


FIG.  
20C

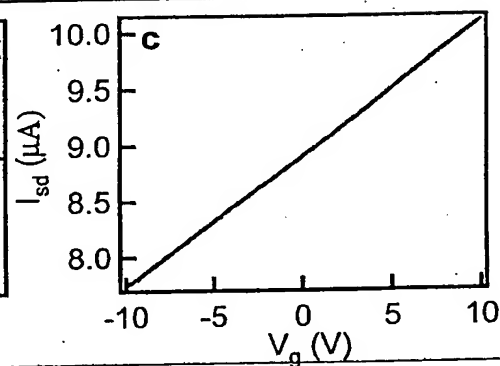
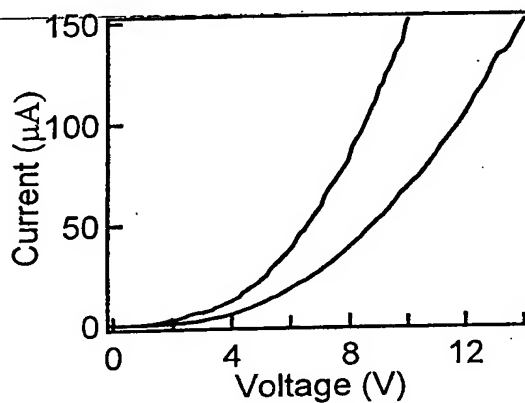


FIG. 21



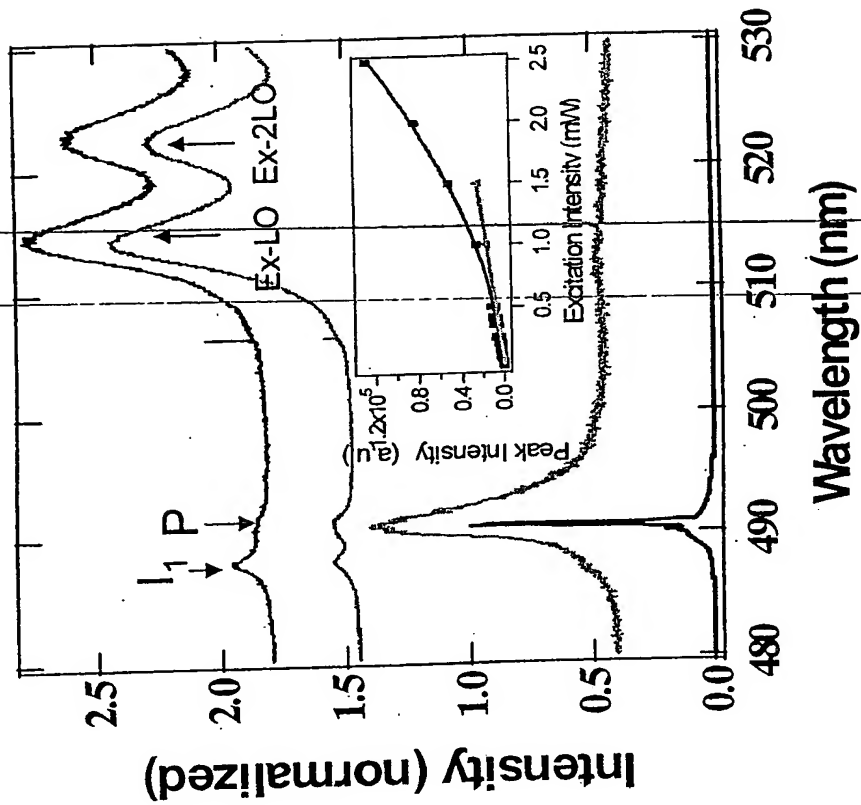


Fig. 22A

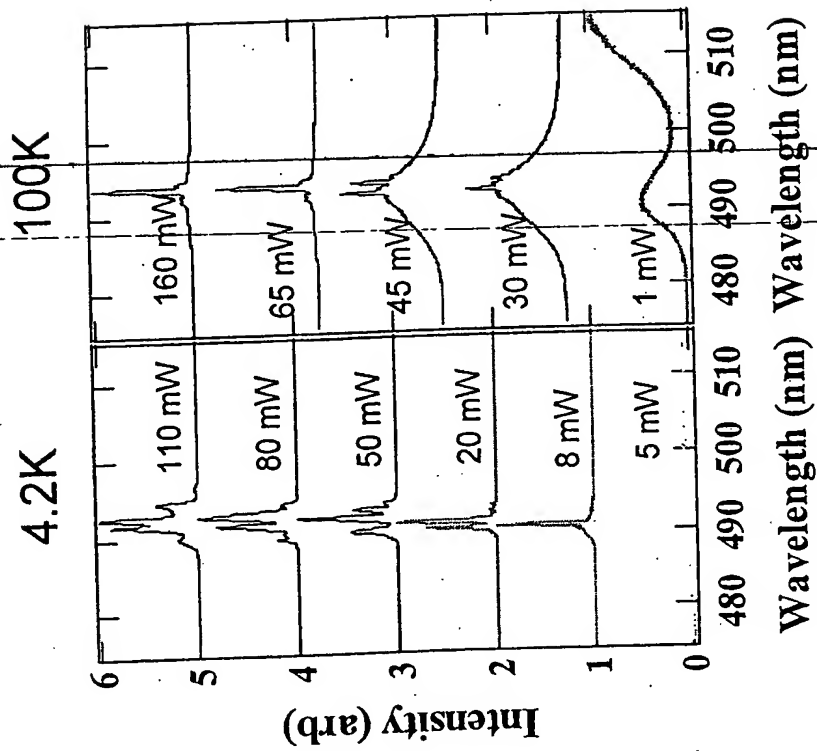


Fig. 22B



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Nanoscale Coherent Optical Components  
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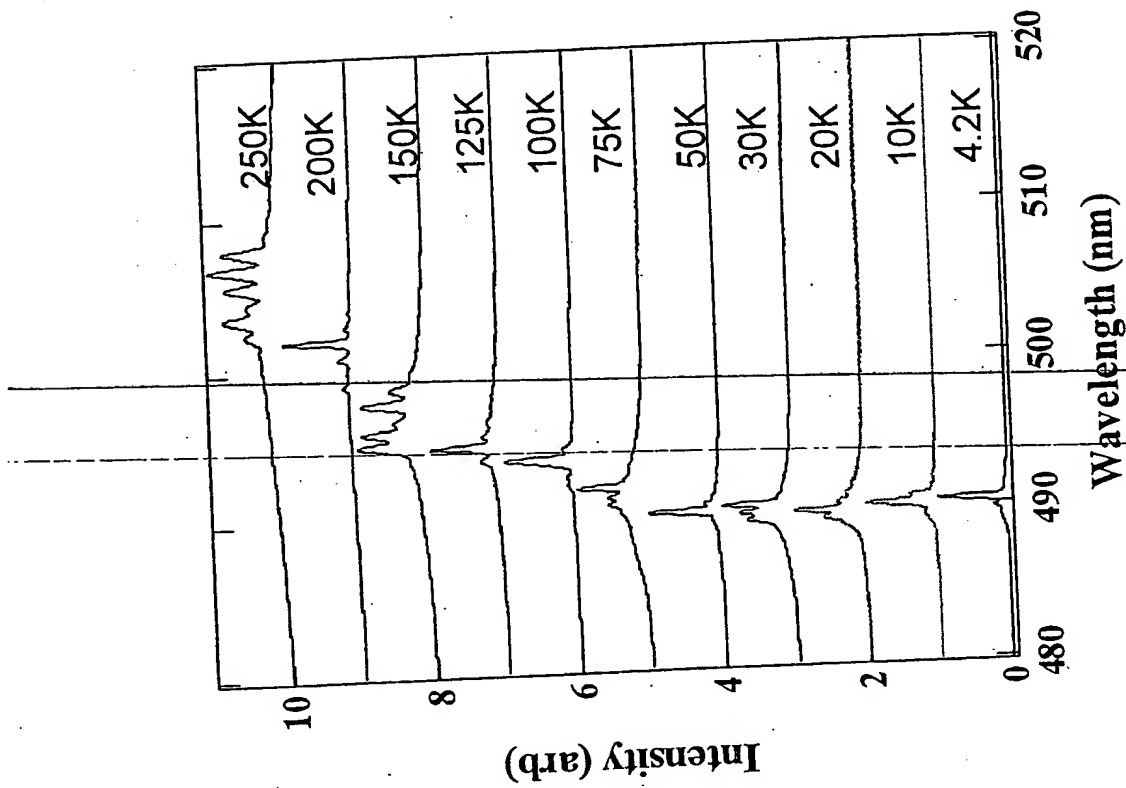


Fig. 220

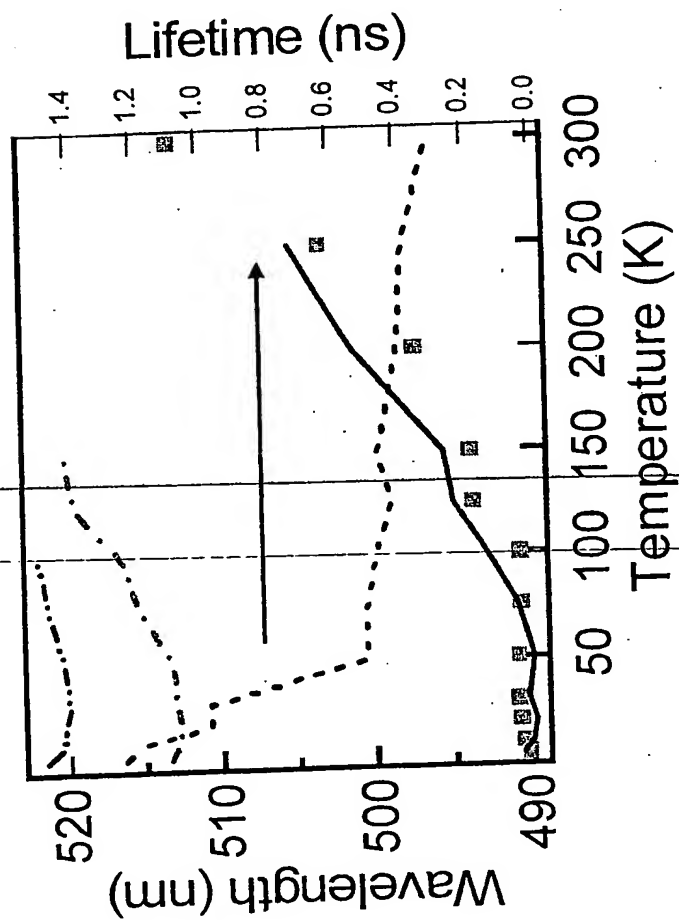


Fig. 82D

Fig. 23A

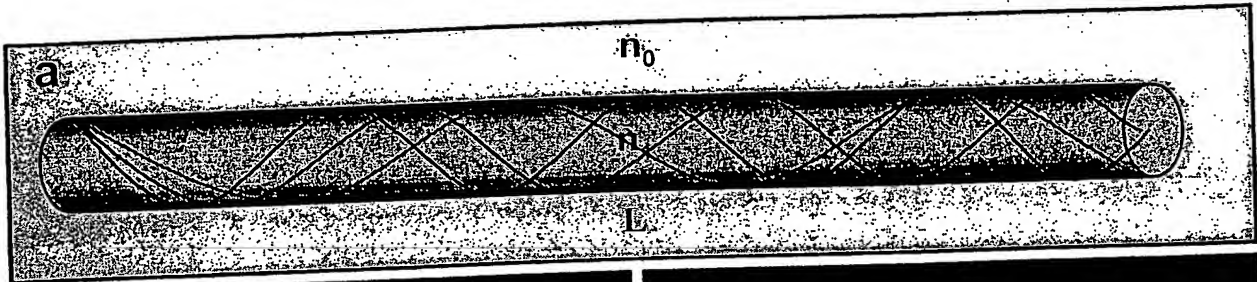


Fig. 23B

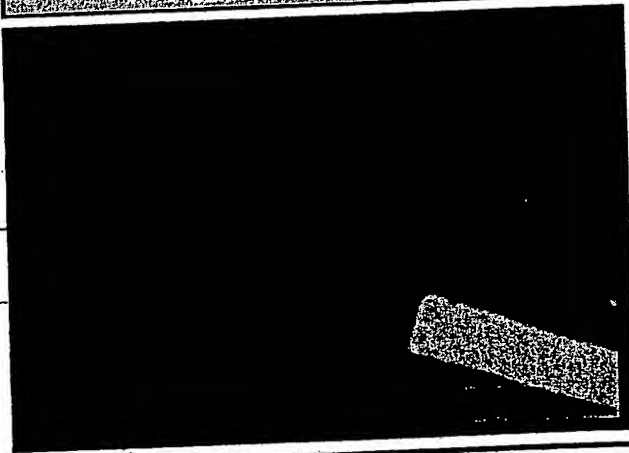


Fig. 23C

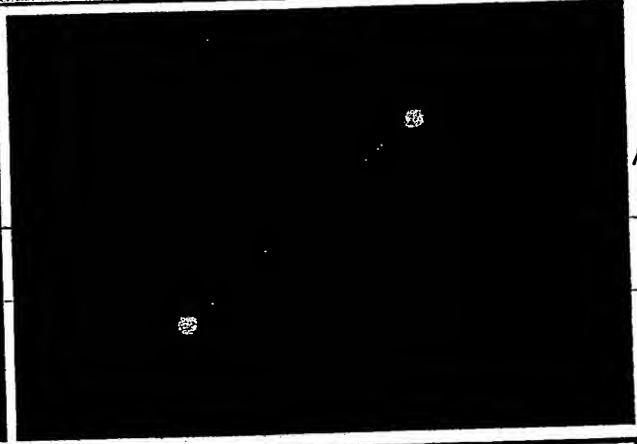


Fig. 23D

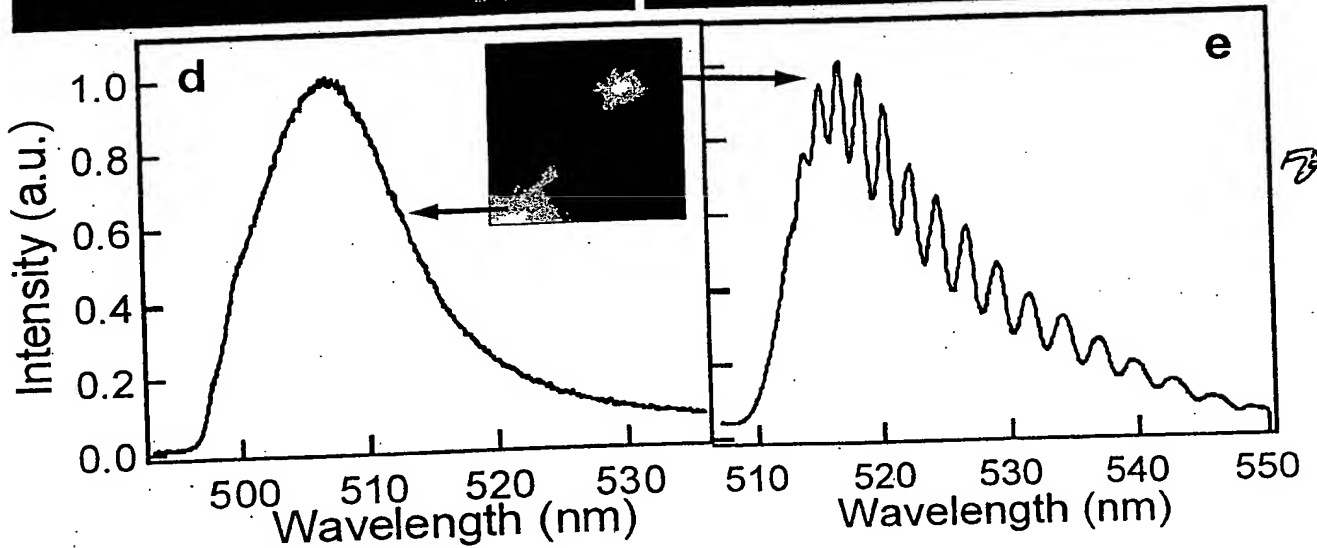


Fig. 23E

Fig.  
24a

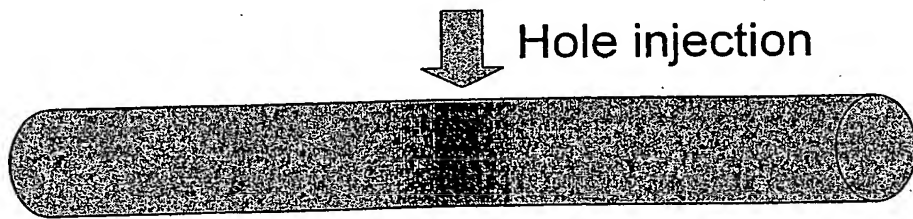


Fig.  
24b

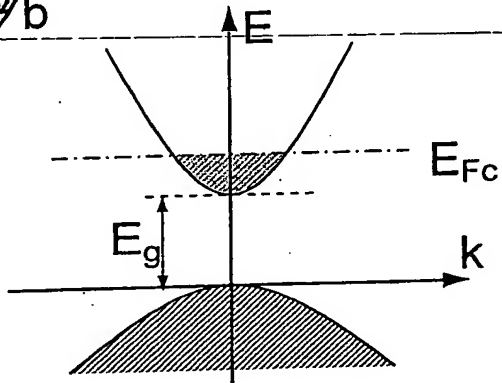


Fig.  
24c

